

SEQUENCE LISTING

<110> Civelli Olivier
Bunzow, James R.
Grandy, David K.
Machida, Curtis A.

<120> Dopamine Receptors and Genes

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<140> 10/060795

<141> 2002-01-29

<150> 09/238977

<151> 1999-01-27

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<151> 1995-06-07

<150> 07/973588

<151> 1992-11-09

<150> 07/438544

<151> 1989-11-20

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<170> PatentIn Ver. 2.0

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tgccccca atg gat cca ctg aac ctg tcc tgg tac gat gac gat ctg gag 169

Met Asp Pro Leu Asn Leu Ser Trp Tyr Asp Asp Asp Leu Glu

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Arg Gln Asn Trp Ser Arg Pro Phe Asn Gly Ser Glu Gly Lys Ala Asp

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agg ccc cac tac aac tac tat gcc atg ctg ctc acc ctc ctc atc ttt 265

Arg Pro His Tyr Asn Tyr Tyr Ala Met Leu Leu Thr Leu Leu Ile Phe

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atc atc gtc ttt ggc aat gtg ctg gtg tgc atg gct gta tcc gca gag				313
Ile Ile Val Phe Gly Asn Val Leu Val Cys Met Ala Val Ser Ala Glu				
	50	55	60	
aag gct ttg cag acc acc acc aac tac ttg ata gtc agc ctt gct gtg				361
Lys Ala Leu Gln Thr Thr Thr Asn Tyr Leu Ile Val Ser Leu Ala Val				
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gct gat ctt ctg gtg gcc aca ctg gta atg ccg tgg gtt gtc tac ctg				409
Ala Asp Leu Leu Val Ala Thr Leu Val Met Pro Trp Val Val Tyr Leu				
	80	85	90	
gag gtg gtg ggt gag tgg aaa ttc agc agg att cac tgt gac atc ttt				457
Glu Val Val Gly Glu Trp Lys Phe Ser Arg Ile His Cys Asp Ile Phe				
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gtc act ctg gat gtc atg atg tgc aca gca agc atc ctg aac ctg tgt				505
Val Thr Leu Asp Val Met Met Cys Thr Ala Ser Ile Leu Asn Leu Cys				
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gcc atc agc att gac agg tac aca gct gtg gca atg ccc atg ctg tat				553
Ala Ile Ser Ile Asp Arg Tyr Thr Ala Val Ala Met Pro Met Leu Tyr				
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Asn Thr Arg Tyr Ser Ser Lys Arg Arg Val Thr Val Met Ile Ala Ile				
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gtc tgg gtc ctg tcc ttc acc atc tcc tgc cca ctg ctc ttc gga ctc				649
Val Trp Val Leu Ser Phe Thr Ile Ser Cys Pro Leu Leu Phe Gly Leu				
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Asn Asn Thr Asp Gln Asn Glu Cys Ile Ile Ala Asn Pro Ala Phe Val				
	175	180	185	190
gtc tac tcc tcc att gtc tca ttc tac gtg ccc ttc atc gtc act ctg				745
Val Tyr Ser Ser Ile Val Ser Phe Tyr Val Pro Phe Ile Val Thr Leu				
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ctg gtc tat atc aaa atc tac atc gtc ctc cgg aag cgc cgg aag cgg				793
Leu Val Tyr Ile Lys Ile Tyr Ile Val Leu Arg Lys Arg Arg Lys Arg				
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gtc aac acc aag cgc agc agt cga gct ttc aga gcc aac ctg aag aca				841
Val Asn Thr Lys Arg Ser Ser Arg Ala Phe Arg Ala Asn Leu Lys Thr				
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cca ctc aag gat gct gcc cgc cga gct cag gag ctg gaa atg gag atg				889
Pro Leu Lys Asp Ala Ala Arg Arg Ala Gln Glu Leu Glu Met Glu Met				
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ctg tca agc acc agc ccc cca gag agg acc cgg tat agc ccc atc cct				937
Leu Ser Ser Thr Ser Pro Pro Glu Arg Thr Arg Tyr Ser Pro Ile Pro				
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ccc agt cac cac cag ctc act ctc cct gat cca tcc cac cac ggc cta 985
 Pro Ser His His Gln Leu Thr Leu Pro Asp Pro Ser His His Gly Leu
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cat agc aac cct gac agt cct gcc aaa cca gag aag aat ggg cac gcc 1033
 His Ser Asn Pro Asp Ser Pro Ala Lys Pro Glu Lys Asn Gly His Ala
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aag att gtc aat ccc agg att gcc aag ttc ttt gag atc cag acc atg 1081
 Lys Ile Val Asn Pro Arg Ile Ala Lys Phe Phe Glu Ile Gln Thr Met
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 Pro Asn Gly Lys Thr Arg Thr Ser Leu Lys Thr Met Ser Arg Arg Lys
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 Thr Thr Phe Asn Ile Glu Phe Arg Lys Ala Phe Met Lys Ile Leu His
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<213> Rattus norvegicus

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Val Phe Gly Asn Val Leu Val Cys Met Ala Val Ser Ala Glu Lys Ala
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Leu Gln Thr Thr Thr Asn Tyr Leu Ile Val Ser Leu Ala Val Ala Asp
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Leu Leu Val Ala Thr Leu Val Met Pro Trp Val Val Tyr Leu Glu Val
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Val Gly Glu Trp Lys Phe Ser Arg Ile His Cys Asp Ile Phe Val Thr
100 105 110
Leu Asp Val Met Met Cys Thr Ala Ser Ile Leu Asn Leu Cys Ala Ile
115 120 125
Ser Ile Asp Arg Tyr Thr Ala Val Ala Met Pro Met Leu Tyr Asn Thr
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Arg Tyr Ser Ser Lys Arg Arg Val Thr Val Met Ile Ala Ile Val Trp
145 150 155 160

Val Leu Ser Phe Thr Ile Ser Cys Pro Leu Leu Phe Gly Leu Asn Asn
 165 170 175
 Thr Asp Gln Asn Glu Cys Ile Ile Ala Asn Pro Ala Phe Val Val Tyr
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 Ser Ser Ile Val Ser Phe Tyr Val Pro Phe Ile Val Thr Leu Leu Val
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 Tyr Ile Lys Ile Tyr Ile Val Leu Arg Lys Arg Arg Lys Arg Val Asn
 210 215 220
 Thr Lys Arg Ser Ser Arg Ala Phe Arg Ala Asn Leu Lys Thr Pro Leu
 225 230 235 240
 Lys Asp Ala Ala Arg Arg Ala Gln Glu Leu Glu Met Glu Met Leu Ser
 245 250 255
 Ser Thr Ser Pro Pro Glu Arg Thr Arg Tyr Ser Pro Ile Pro Pro Ser
 260 265 270
 His His Gln Leu Thr Leu Pro Asp Pro Ser His His Gly Leu His Ser
 275 280 285
 Asn Pro Asp Ser Pro Ala Lys Pro Glu Lys Asn Gly His Ala Lys Ile
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 Val Asn Pro Arg Ile Ala Lys Phe Phe Glu Ile Gln Thr Met Pro Asn
 305 310 315 320
 Gly Lys Thr Arg Thr Ser Leu Lys Thr Met Ser Arg Arg Lys Leu Ser
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 Gln Gln Lys Glu Lys Lys Ala Thr Gln Met Leu Ala Ile Val Leu Gly
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 Ile His Cys Asp Cys Asn Ile Pro Pro Val Leu Tyr Ser Ala Phe Thr
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<212> PRT

<213> Mesocricetus auratus

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 35 40 45
 Phe Gly Asn Val Leu Val Ile Thr Ala Ile Ala Lys Phe Glu Arg Leu
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 Gln Thr Val Thr Asn Tyr Phe Ile Asp Ser Leu Ala Cys Ala Asp Leu
 65 70 75 80
 Val Met Gly Ile Ala Val Val Pro Phe Gly Ala Ser His Ile Ile Met
 85 90 95
 Lys Met Trp Asn Phe Gly Asn Phe Trp Cys Glu Phe Trp Thr Ser Ile
 100 105 110
 Gln Val Leu Cys Val Thr Ala Ser Ile Glu Thr Leu Cys Val Ile Ala
 115 120 125
 Val Gln Arg Tyr Ile Ala Ile Thr Ser Pro Phe Lys Tyr Gln Ser Leu
 130 135 140
 Leu Thr Lys Asn Lys Ala Arg Met Val Ile Leu Met Val Trp Ile Val
 145 150 155 160
 Ser Gly Leu Thr Ser Phe Ile Pro Ile Gln Met His Trp Tyr Arg Ala
 165 170 175
 Thr His Gln Lys Ala Ile Asp Cys Tyr His Arg Glu Thr Cys Cys Asp
 180 185 190
 Phe Phe Tyr Asn Gln Ala Tyr Ala Ile Trp Ser Ser Ile Val Ser Phe
 195 200 205
 Tyr Val Pro Leu Val Val Met Val Phe Val Tyr Ser Arg Val Phe Gln
 210 215 220
 Val Ala Lys Arg Gln Leu Gln Lys Ile Lys Glu His Lys Ala Leu Lys
 225 230 235 240
 Thr Leu Gly Ile Ile Met Gly Ile Phe Thr Leu Cys Trp Leu Pro Phe
 245 250 255
 Phe Ile Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile Pro Lys
 260 265 270
 Glu Val Tyr Ile Leu Leu Met Trp Leu Gly Tyr Val Asn Ser Ala Pro
 275 280 285
 Asn Pro Ile Ile Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala Phe Gln
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 Glu Ile Leu Cys Leu
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Thr	Leu	Thr	Leu	Val	Cys	Leu	Ala	Gly	Leu	Leu	Met	Leu	Leu	Thr	Val	
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Gln	Tyr	Trp	Tyr	Phe	Gly	Lys	Thr	Trp	Cys	Glu	Ile	Tyr	Leu	Ala	Leu	
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Gly	Gly	Gly	Gly	Pro	Gln	Pro	Ala	Glu	Pro	Arg	Cys	Glu	Ile	Asn	Asp	
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Gln	Lys	Trp	Tyr	Val	Ile	Ser	Ser	Cys	Ile	Gly	Ser	Phe	Phe	Ala	Pro	
		195					200					205				
Leu	Leu	Ile	Met	Ile	Leu	Val	Tyr	Val	Arg	Ile	Tyr	Gln	Ile	Ala	Lys	
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Arg	Arg	Thr	Arg	Val	Pro	Arg	Glu	Lys	Arg	Phe	Thr	Phe	Val	Leu	Ala	
225					230					235					240	
Val	Val	Ile	Gly	Met	Phe	Val	Val	Cys	Trp	Phe	Pro	Phe	Phe	Phe	Thr	
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Tyr	Thr	Leu	Thr	Ala	Val	Gly	Cys	Ser	Val	Pro	Arg	Thr	Leu	Phe	Lys	

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 <213> Homo sapiens

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 35 40 45
 Cys Ala Val Ile Gly Asn Ala Cys Val Val Ala Ala Ile Ala Leu Glu
 50 55 60
 Arg Ser Leu Gln Asn Val Ala Asn Tyr Leu Ile Gly Ser Leu Ala Val
 65 70 75 80
 Thr Asp Ile Met Val Ser Val Leu Val Ile Pro Met Ala Ala Leu Tyr
 85 90 95
 Gln Val Leu Asn Asn Trp Thr Leu Gly Gln Val Thr Cys Asp Leu Phe
 100 105 110
 Ile Ala Leu Asp Val Leu Gln Cys Thr Ser Ser Ile Leu His Leu Cys
 115 120 125
 Ala Ile Ala Ile Gln Arg Tyr Trp Ala Ile Thr Asp Pro Ile Asp Tyr
 130 135 140
 Val Asn Lys Arg Thr Pro Arg Pro Arg Ala Leu Thr Ser Leu Thr Trp
 145 150 155 160
 Leu Ile Gly Phe Leu Ile Ser Ile Pro Pro Met Leu Gly Trp Arg Thr
 165 170 175
 Pro Glu Asp Arg Ser Asp Pro Asp Ala Cys Thr Ile Ser Lys Asp Met
 180 185 190
 Gly Tyr Thr Leu Tyr Ser Thr Phe Gly Ala Phe Tyr Ile Pro Leu Leu
 195 200 205

Leu Met Leu Val Leu Tyr Gly Arg Ile Phe Arg Ala Ala Arg Phe Arg
 210 215 220
 Ile Pro Lys Thr Arg Glu Arg Lys Thr Val Lys Thr Leu Gln Ile Ile
 225 230 235 240
 Met Gly Leu Phe Ile Leu Cys Trp Leu Pro Phe Phe Ile Val Ala Leu
 245 250 255
 Val Leu Pro Pro Cys Glu Ser Ser Cys His Met Pro Thr Ile Leu Gly
 260 265 270
 Ala Ile Ile Asn Trp Leu Gly Tyr Ser Asn Ser Leu Ile Asn Pro Val
 275 280 285
 Ile Tyr Ala Tyr Phe Asn Lys Asp Phe Gln Asn Ala Phe Trp Lys Ile
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 Ile Lys Cys Asn Phe Cys Arg Gln
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 35 40 45
 Ser Phe Lys Val Asn Thr Glu Leu Lys Thr Val Asn Asn Tyr Phe Leu
 50 55 60
 Leu Ser Leu Ala Cys Ala Asp Leu Ile Ile Gly Thr Phe Ser Met Asn
 65 70 75 80
 Leu Tyr Thr Thr Tyr Leu Leu Met Gln Ile Trp Ala Leu Gly Thr Leu
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 Ala Cys Asp Leu Trp Leu Ala Leu Asp Tyr Val Ala Ser Asn Ala Ser
 100 105 110
 Val Met Asn Leu Leu Ile Ile Ser Phe Gln Arg Tyr Phe Ser Val Thr
 115 120 125
 Arg Pro Leu Ser Tyr Arg Ala Lys Thr Arg Pro Arg Arg Ala Ala Leu
 130 135 140
 Met Ile Gly Leu Ala Trp Leu Val Ser Phe Val Leu Trp Ala Pro Ala
 145 150 155 160

Ile Leu Phe Trp Gln Tyr Leu Val Gly Glu Arg Thr Val Leu Ala Gly
 165 170 175
 Gln Cys Tyr Ile Gln Phe Leu Ser Gln Pro Ile Ile Thr Phe Gly Thr
 180 185 190
 Ala Met Ala Ala Phe Tyr Leu Pro Val Thr Val Met Cys Thr Ile Tyr
 195 200 205
 Trp Arg Ile Tyr Arg Glu Thr Glu Asn Arg Ala Arg Glu Leu Lys Glu
 210 215 220
 Lys Lys Ala Ala Arg Thr Leu Ser Ala Ile Leu Leu Ala Phe Ile Val
 225 230 235 240
 Thr Trp Thr Tyr Asn Ile Met Val Leu Val Ser Thr Phe Cys Lys Asp
 245 250 255
 Cys Val Pro Glu Thr Leu Trp Glu Leu Gly Tyr Trp Ile Gly Tyr Val
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 Arg Asp Thr Phe Arg Leu Leu Leu His Cys Arg
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 35 40 45
 Met Gly Asn Ala Thr Val Ile Trp Ile Ile Leu Ala His Gln Arg Met
 50 55 60
 Arg Thr Val Thr Asn Tyr Phe Ile Val Asn Leu Ala Leu Ala Asp Leu
 65 70 75 80
 Cys Met Ala Ala Phe Asn Ala Ala Phe Asn Phe Val Tyr Ala Ser His
 85 90 95
 Asn Ile Trp Tyr Phe Gly Arg Ala Phe Cys Tyr Phe Gln Asn Leu Phe
 100 105 110
 Pro Ile Thr Ala Met Phe Val Ser Ile Tyr Ser Met Thr Ala Leu Ala

115	120	125
Ala Gln Arg Tyr Met Ala Ile Val Arg Pro Phe Gln Pro Arg Leu Ser		
130	135	140
Ala Pro Gly Thr Arg Ala Val Ile Ala Gly Leu Trp Leu Val Ala Leu		
145	150	155
Ala Leu Ala Phe Pro Gln Cys Phe Tyr Ser Thr Ile Thr Thr Asp Glu		
	165	170
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Gly Ala Thr Lys Cys Val Val Ala Trp Pro Glu Asp Ser Gly Gly Lys		
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		190
Met Leu Leu Leu Tyr His Leu Ile Val Ile Ala Leu Ile Tyr Phe Leu		
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		205
Pro Leu Val Val Met Phe Val Ala Tyr Ser Val Ile Gly Leu Thr Leu		
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Trp Arg Arg Ser Val Pro Gly Ala Lys Lys Lys Phe Val Lys Thr Met		
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Val Ile Val Val Val Thr Phe Ala Ile Cys Trp Leu Pro Tyr His Leu		
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		255
Tyr Phe Ile Ile Gly Thr Phe Gln Glu Asp Ile Tyr Cys His Lys Phe		
	260	265
		270
Ile Gln Gln Val Tyr Leu Ala Leu Pro Trp Ile Ala Met Ser Ser Thr		
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Gln Phe Arg Leu Ala Pro Arg Cys Cys		
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 <212> DNA
 <213> Homo sapiens

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 Gln Leu Thr Leu Pro Asp Pro Ser His His Gly Leu His Ser Thr Pro
 20 25 30

gac agc ccc gcc aaa cca gag aag aat ggg cat gcc aaa agg acc acc 145
Asp Ser Pro Ala Lys Pro Glu Lys Asn Gly His Ala Lys Arg Thr Thr
35 40 45
cca agg att gcc aag atc ttt gag atc cag acc atg ccc aat ggc aaa 193
Pro Arg Ile Ala Lys Ile Phe Glu Ile Gln Thr Met Pro Asn Gly Lys
50 55 60
acc cgg acc tcc ctc aag acc atg agc cgt agg aag ntc nnc cag cag 241
Thr Arg Thr Ser Leu Lys Thr Met Ser Arg Arg Lys Xaa Xaa Gln Gln
65 70 75 80
aag gag aag aaa gcc act cag atg ctc gcc atn gtt ctc ggc gtg ttc 289
Lys Glu Lys Lys Ala Thr Gln Met Leu Ala Xaa Val Leu Gly Val Phe
85 90 95
atc atc tgc tgg ctg ccc ttc ttc atc aca cac atc ctg aac ata cac 337
Ile Ile Cys Trp Leu Pro Phe Phe Ile Thr His Ile Leu Asn Ile His
100 105 110
tgt gac tgc aac atc ccg cct gtc ctg tac agc gcc ttc acg tgg ctg 385
Cys Asp Cys Asn Ile Pro Pro Val Leu Tyr Ser Ala Phe Thr Trp Leu
115 120 125
ggc tat gtc aac agc gcc gtg aac ccc atc atc tac acc acc ttc aac 433
Gly Tyr Val Asn Ser Ala Val Asn Pro Ile Ile Tyr Thr Thr Phe Asn
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Ile Glu Phe Arg Lys Ala Phe Leu Lys Ile Leu His Cys
145 150 155
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<213> Homo sapiens

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Asp Ser Pro Ala Lys Pro Glu Lys Asn Gly His Ala Lys Arg Thr Thr
35 40 45
Pro Arg Ile Ala Lys Ile Phe Glu Ile Gln Thr Met Pro Asn Gly Lys
50 55 60
Thr Arg Thr Ser Leu Lys Thr Met Ser Arg Arg Lys Xaa Xaa Gln Gln
65 70 75 80

Lys	Glu	Lys	Lys	Ala	Thr	Gln	Met	Leu	Ala	Xaa	Val	Leu	Gly	Val	Phe
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Ile	Ile	Cys	Trp	Leu	Pro	Phe	Phe	Ile	Thr	His	Ile	Leu	Asn	Ile	His
			100					105					110		
Cys	Asp	Cys	Asn	Ile	Pro	Pro	Val	Leu	Tyr	Ser	Ala	Phe	Thr	Trp	Leu
		115					120					125			
Gly	Tyr	Val	Asn	Ser	Ala	Val	Asn	Pro	Ile	Ile	Tyr	Thr	Thr	Phe	Asn
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Ile	Glu	Phe	Arg	Lys	Ala	Phe	Leu	Lys	Ile	Leu	His	Cys			
145					150					155					

105	110	115	
gcg agc atc ctg aac ttg tgt gcc atc agc atc gac agg tac aca gct Ala Ser Ile Leu Asn Leu Cys Ala Ile Ser Ile Asp Arg Tyr Thr Ala 120 125 130 135			438
gtg gcc atg ccc atg ctg tac aat acg cgc tac agc tcc aag cgc cgg Val Ala Met Pro Met Leu Tyr Asn Thr Arg Tyr Ser Ser Lys Arg Arg 140 145 150			486
gtc acc gtc atg atc tcc atc gtc tgg gtc ctg tcc ttc acc atc tcc Val Thr Val Met Ile Ser Ile Val Trp Val Leu Ser Phe Thr Ile Ser 155 160 165			534
tgc cca ctc ctc ttc gga ctc aat aac gca gac cag aac gag tgc atc Cys Pro Leu Leu Phe Gly Leu Asn Asn Ala Asp Gln Asn Glu Cys Ile 170 175 180			582
att gcc aac ccg gcc ttc gtg gtc tac tcc tcc atc gtc tcc ttc tac Ile Ala Asn Pro Ala Phe Val Val Tyr Ser Ser Ile Val Ser Phe Tyr 185 190 195			630
gtg ccc ttc att gtc acc ctg ctg gtc tac atc aag atc tac att gtc Val Pro Phe Ile Val Thr Leu Leu Val Tyr Ile Lys Ile Tyr Ile Val 200 205 210 215			678
ctc cgc aga cgc cgc aag cga gtc aac acc aaa cgc agc agc cga gct Leu Arg Arg Arg Arg Lys Arg Val Asn Thr Lys Arg Ser Ser Arg Ala 220 225 230			726
ttc agg gcc cac ctg agg gct cca cta aag ggc aac tgt act cac ccc Phe Arg Ala His Leu Arg Ala Pro Leu Lys Gly Asn Cys Thr His Pro 235 240 245			774
gag gac atg aaa ctc tgc acc gtt atc atg aag tct aat ggg agt ttc Glu Asp Met Lys Leu Cys Thr Val Ile Met Lys Ser Asn Gly Ser Phe 250 255 260			822
cca gtg aac agg cgg aga gtg gag gct gcc cgg cga gcc cag gag ctg Pro Val Asn Arg Arg Arg Val Glu Ala Ala Arg Arg Ala Gln Glu Leu 265 270 275			870
gag atg gag atg ctc tcc agc acc agc cca ccc gag agg acc cgg tac Glu Met Glu Met Leu Ser Ser Thr Ser Pro Pro Glu Arg Thr Arg Tyr 280 285 290 295			918
agc ccc atc cca ccc agc cac cac cag ctg act ctc ccc gac ccg tcc Ser Pro Ile Pro Pro Ser His His Gln Leu Thr Leu Pro Asp Pro Ser 300 305 310			966
cac cat ggt ctc cac agc act ccc gac agc ccc gcc aaa cca gag aag His His Gly Leu His Ser Thr Pro Asp Ser Pro Ala Lys Pro Glu Lys 315 320 325			1014
aat ggg cat gcc aaa gac cac ccc aag att gcc aag atc ttt gag atc Asn Gly His Ala Lys Asp His Pro Lys Ile Ala Lys Ile Phe Glu Ile 330 335 340			1062

cag acc atg ccc aat ggc aaa acc cgg acc tcc ctc aag acc atg agc 1110
 Gln Thr Met Pro Asn Gly Lys Thr Arg Thr Ser Leu Lys Thr Met Ser
 345 350 355

cgt agg aag ctc tcc cag cag aag gag aag aaa gcc act cag atg ctc 1158
 Arg Arg Lys Leu Ser Gln Gln Lys Glu Lys Lys Ala Thr Gln Met Leu
 360 365 370 375

gcc att gtt ctc ggc gtg ttc atc atc tgc tgg ctg ccc ttc ttc atc 1206
 Ala Ile Val Leu Gly Val Phe Ile Ile Cys Trp Leu Pro Phe Phe Ile
 380 385 390

aca cac atc ctg aac ata cac tgt gac tgc aac atc ccg cct gtc ctg 1254
 Thr His Ile Leu Asn Ile His Cys Asp Cys Asn Ile Pro Pro Val Leu
 395 400 405

tac agc gcc ttc acg tgg ctg ggc tat gtc aac agc gcc gtg aac ccc 1302
 Tyr Ser Ala Phe Thr Trp Leu Gly Tyr Val Asn Ser Ala Val Asn Pro
 410 415 420

atc atc tac acc acc ttc aac att gag ttc cgc aag gcc ttc ctg aag 1350
 Ile Ile Tyr Thr Thr Phe Asn Ile Glu Phe Arg Lys Ala Phe Leu Lys
 425 430 435

atc ctc cac tgc tgactctgct gctgccccgc acagcagcct gcttcccacc 1402
 Ile Leu His Cys
 440

tccctgcccc ggccggccag cctcaccctt gcgaaccgtg agcaggaagg cctgggtgga 1462

tcggcctcct cttcttagcc ccggcaggcc ctgcagtgtt cgcttggtc catgctcctc 1522

actgcccga caccctcact ctgccagggc agtgctagtg agctgggcat ggtaccagcc 1582

ctggggctgg cccagctca ggggcagctc atagagtccc cctcccacc tccagtcccc 1642

ctatccttgg caccaaagat gcagccgcct tccttgacct tcctctgggg ctctagggtt 1702

gctggagcct gagtcagggc ccagaggctg agttttctct ttgtggggct tggcgtggag 1762

caggcggtgg ggagagatgg acagttcaca ccctgcaagg cccacaggag gcaagcaagc 1822

tctcttgccg aggagccagg caacttcagt cctgggagac ccatgtaaat accagactgc 1882

aggttggaacc ccaaggattc ccaagccaaa aaccttagct cctcccga cccgatgtg 1942

gacctctact ttccaggcta gtccggacct acctacccc gttacagctc cccaagtgg 2002

ttccacatgc tctgagaaga ggagccctca tcttgaaggg cccaggaggg tctatgggga 2062

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ctgggcctgg gctagggaca tcagaggttc tttgaggag tgctctgcc acactctgac 2242

gcaaaacac tttccttttc tttccttct ggcctttcct ctctcctgtt tcccttcct 2302
 tccactgcct ctgccttaga ggagcccacg gctaagaggc tgctgaaaac catctggcct 2362
 ggcctggccc tgccctgagg aaggagggca agctgcagct tgggagagcc cctggggcct 2422
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<210> 11
 <211> 443
 <212> PRT
 <213> Homo sapiens

<400> 11
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 1 5 10 15
 Asn Trp Ser Arg Pro Phe Asn Gly Ser Asp Gly Lys Ala Asp Arg Pro
 20 25 30
 His Tyr Asn Tyr Tyr Ala Thr Leu Leu Thr Leu Leu Ile Ala Val Ile
 35 40 45
 Val Phe Gly Asn Val Leu Val Cys Met Ala Val Ser Arg Glu Lys Ala
 50 55 60
 Leu Gln Thr Thr Thr Asn Tyr Leu Ile Val Ser Leu Ala Val Ala Asp
 65 70 75 80
 Leu Leu Val Ala Thr Leu Val Met Pro Trp Val Val Tyr Leu Glu Val
 85 90 95
 Val Gly Glu Trp Lys Phe Ser Arg Ile His Cys Asp Ile Phe Val Thr
 100 105 110
 Leu Asp Val Met Met Cys Thr Ala Ser Ile Leu Asn Leu Cys Ala Ile
 115 120 125
 Ser Ile Asp Arg Tyr Thr Ala Val Ala Met Pro Met Leu Tyr Asn Thr
 130 135 140
 Arg Tyr Ser Ser Lys Arg Arg Val Thr Val Met Ile Ser Ile Val Trp
 145 150 155 160
 Val Leu Ser Phe Thr Ile Ser Cys Pro Leu Leu Phe Gly Leu Asn Asn
 165 170 175
 Ala Asp Gln Asn Glu Cys Ile Ile Ala Asn Pro Ala Phe Val Val Tyr
 180 185 190
 Ser Ser Ile Val Ser Phe Tyr Val Pro Phe Ile Val Thr Leu Leu Val
 195 200 205
 Tyr Ile Lys Ile Tyr Ile Val Leu Arg Arg Arg Arg Lys Arg Val Asn
 210 215 220

Thr Lys Arg Ser Ser Arg Ala Phe Arg Ala His Leu Arg Ala Pro Leu
 225 230 235 240
 Lys Gly Asn Cys Thr His Pro Glu Asp Met Lys Leu Cys Thr Val Ile
 245 250 255
 Met Lys Ser Asn Gly Ser Phe Pro Val Asn Arg Arg Arg Val Glu Ala
 260 265 270
 Ala Arg Arg Ala Gln Glu Leu Glu Met Glu Met Leu Ser Ser Thr Ser
 275 280 285
 Pro Pro Glu Arg Thr Arg Tyr Ser Pro Ile Pro Pro Ser His His Gln
 290 295 300
 Leu Thr Leu Pro Asp Pro Ser His His Gly Leu His Ser Thr Pro Asp
 305 310 315 320
 Ser Pro Ala Lys Pro Glu Lys Asn Gly His Ala Lys Asp His Pro Lys
 325 330 335
 Ile Ala Lys Ile Phe Glu Ile Gln Thr Met Pro Asn Gly Lys Thr Arg
 340 345 350
 Thr Ser Leu Lys Thr Met Ser Arg Arg Lys Leu Ser Gln Gln Lys Glu
 355 360 365
 Lys Lys Ala Thr Gln Met Leu Ala Ile Val Leu Gly Val Phe Ile Ile
 370 375 380
 Cys Trp Leu Pro Phe Phe Ile Thr His Ile Leu Asn Ile His Cys Asp
 385 390 395 400
 Cys Asn Ile Pro Pro Val Leu Tyr Ser Ala Phe Thr Trp Leu Gly Tyr
 405 410 415
 Val Asn Ser Ala Val Asn Pro Ile Ile Tyr Thr Thr Phe Asn Ile Glu
 420 425 430
 Phe Arg Lys Ala Phe Leu Lys Ile Leu His Cys
 435 440

<210> 12
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 <212> DNA
 <213> Rattus norvegicus

<220>
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<400> 12
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 Met Asp Pro Leu Asn Leu Ser Trp Tyr Asp Asp Asp Leu Glu Arg Gln
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aac tgg agc cgg ccc ttc aat ggg tca gaa ggg aag gca gac agg ccc	96
Asn Trp Ser Arg Pro Phe Asn Gly Ser Glu Gly Lys Ala Asp Arg Pro	
20 25 30	
cac tac aac tac tat gcc atg ctg ctc acc ctc ctc atc ttt atc atc	144
His Tyr Asn Tyr Tyr Ala Met Leu Leu Thr Leu Leu Ile Phe Ile Ile	
35 40 45	
gtc ttt ggc aat gtg ctg gtg tgc atg gct gta tcc cga gag aag gct	192
Val Phe Gly Asn Val Leu Val Cys Met Ala Val Ser Arg Glu Lys Ala	
50 55 60	
ttg cag acc acc acc aac tac ttg ata gtc agc ctt gct gtg gct gat	240
Leu Gln Thr Thr Thr Asn Tyr Leu Ile Val Ser Leu Ala Val Ala Asp	
65 70 75 80	
ctt ctg gtg gcc aca ctg gta atg ccg tgg gtt gtc tac ctg gag gtg	288
Leu Leu Val Ala Thr Leu Val Met Pro Trp Val Val Tyr Leu Glu Val	
85 90 95	
gtg ggt gag tgg aaa ttc agc agg att cac tgt gac atc ttt gtc act	336
Val Gly Glu Trp Lys Phe Ser Arg Ile His Cys Asp Ile Phe Val Thr	
100 105 110	
ctg gat gtc atg atg tgc aca gca agc atc ctg aac ctg tgt gcc atc	384
Leu Asp Val Met Met Cys Thr Ala Ser Ile Leu Asn Leu Cys Ala Ile	
115 120 125	
agc att gac agg tac aca gct gtg gca atg ccc atg ctg tat aac aca	432
Ser Ile Asp Arg Tyr Thr Ala Val Ala Met Pro Met Leu Tyr Asn Thr	
130 135 140	
cgc tac agc tcc aag cgc cga gtt act gtc atg att gcc att gtc tgg	480
Arg Tyr Ser Ser Lys Arg Arg Val Thr Val Met Ile Ala Ile Val Trp	
145 150 155 160	
gtc ctg tcc ttc acc atc tcc tgc cca ctg ctc ttc gga ctc aac aat	528
Val Leu Ser Phe Thr Ile Ser Cys Pro Leu Leu Phe Gly Leu Asn Asn	
165 170 175	
aca gac cag aat gag tgt atc att gcc aac cct gcc ttt gtg gtc tac	576
Thr Asp Gln Asn Glu Cys Ile Ile Ala Asn Pro Ala Phe Val Val Tyr	
180 185 190	
tcc tcc att gtc tca ttc tac gtg ccc ttc atc gtc act ctg ctg gtc	624
Ser Ser Ile Val Ser Phe Tyr Val Pro Phe Ile Val Thr Leu Leu Val	
195 200 205	
tat atc aaa atc tac atc gtc ctc cgg aag cgc cgg aag cgg gtc aac	672
Tyr Ile Lys Ile Tyr Ile Val Leu Arg Lys Arg Arg Lys Arg Val Asn	
210 215 220	
acc aag cgc agc agt cga gct ttc aga gcc aac ctg aag aca cca ctc	720
Thr Lys Arg Ser Ser Arg Ala Phe Arg Ala Asn Leu Lys Thr Pro Leu	
225 230 235 240	
aag gat gct gcc cgc cga gct cag gag ctg gaa atg gag atg ctg tca	768

Lys	Asp	Ala	Ala	Arg	Arg	Ala	Gln	Glu	Leu	Glu	Met	Glu	Met	Leu	Ser	
				245					250					255		
agc	acc	agc	ccc	cca	gag	agg	acc	cgg	tat	agc	ccc	atc	cct	ccc	agt	816
Ser	Thr	Ser	Pro	Pro	Glu	Arg	Thr	Arg	Tyr	Ser	Pro	Ile	Pro	Pro	Ser	
			260					265					270			
cac	cac	cag	ctc	act	ctc	cct	gat	cca	tcc	cac	cac	ggc	cta	cat	agc	864
His	His	Gln	Leu	Thr	Leu	Pro	Asp	Pro	Ser	His	His	Gly	Leu	His	Ser	
		275					280					285				
aac	cct	gac	agt	cct	gcc	aaa	cca	gag	aag	aat	ggg	cac	gcc	aag	att	912
Asn	Pro	Asp	Ser	Pro	Ala	Lys	Pro	Glu	Lys	Asn	Gly	His	Ala	Lys	Ile	
	290					295					300					
gtc	aat	ccc	agg	att	gcc	aag	ttc	ttt	gag	atc	cag	acc	atg	ccc	aat	960
Val	Asn	Pro	Arg	Ile	Ala	Lys	Phe	Phe	Glu	Ile	Gln	Thr	Met	Pro	Asn	
305					310					315					320	
ggc	aaa	acc	cgg	acc	tcc	ctt	aag	acg	atg	agc	cgc	aga	aag	ctc	tcc	1008
Gly	Lys	Thr	Arg	Thr	Ser	Leu	Lys	Thr	Met	Ser	Arg	Arg	Lys	Leu	Ser	
			325						330					335		
cag	cag	aag	gag	aag	aaa	gcc	act	cag	atg	ctt	gcc	att	gtt	ctc	gcc	1056
Gln	Gln	Lys	Glu	Lys	Lys	Ala	Thr	Gln	Met	Leu	Ala	Ile	Val	Leu	Ala	
			340					345					350			
gtc	aac	ccc	atc	atc	tac	acc	acc	ttc	aac	atc	gag	ttc	cgc	aag	gcc	1104
Val	Asn	Pro	Ile	Ile	Tyr	Thr	Thr	Phe	Asn	Ile	Glu	Phe	Arg	Lys	Ala	
		355					360					365				
ttc	atg	aag	gat	tgc	aac	atc	cca	cca	gtc	ctc	tac	agc	gcc	ttc	aca	1152
Phe	Met	Lys	Asp	Cys	Asn	Ile	Pro	Pro	Val	Leu	Tyr	Ser	Ala	Phe	Thr	
	370					375					380					
tgg	ctg	ggc	tat	gtc	aac	agt	gcc	gtc	aac	ccc	atc	atc	tac	acc	acc	1200
Trp	Leu	Gly	Tyr	Val	Asn	Ser	Ala	Val	Asn	Pro	Ile	Ile	Tyr	Thr	Thr	
385					390					395					400	
ttc	aac	atc	gag	ttc	cgc	aag	gcc	ttc	atg	aag	atc	ttg	cac	tgc	tga	1248
Phe	Asn	Ile	Glu	Phe	Arg	Lys	Ala	Phe	Met	Lys	Ile	Leu	His	Cys		
			405						410					415		

<210> 13
 <211> 415
 <212> PRT
 <213> Rattus norvegicus

<400> 13
 Met Asp Pro Leu Asn Leu Ser Trp Tyr Asp Asp Asp Leu Glu Arg Gln
 1 5 10 15
 Asn Trp Ser Arg Pro Phe Asn Gly Ser Glu Gly Lys Ala Asp Arg Pro
 20 25 30
 His Tyr Asn Tyr Tyr Ala Met Leu Leu Thr Leu Leu Ile Phe Ile Ile

35					40					45					
Val	Phe	Gly	Asn	Val	Leu	Val	Cys	Met	Ala	Val	Ser	Arg	Glu	Lys	Ala
50						55					60				
Leu	Gln	Thr	Thr	Thr	Asn	Tyr	Leu	Ile	Val	Ser	Leu	Ala	Val	Ala	Asp
65					70					75					80
Leu	Leu	Val	Ala	Thr	Leu	Val	Met	Pro	Trp	Val	Val	Tyr	Leu	Glu	Val
				85					90					95	
Val	Gly	Glu	Trp	Lys	Phe	Ser	Arg	Ile	His	Cys	Asp	Ile	Phe	Val	Thr
			100					105					110		
Leu	Asp	Val	Met	Met	Cys	Thr	Ala	Ser	Ile	Leu	Asn	Leu	Cys	Ala	Ile
		115					120					125			
Ser	Ile	Asp	Arg	Tyr	Thr	Ala	Val	Ala	Met	Pro	Met	Leu	Tyr	Asn	Thr
	130					135					140				
Arg	Tyr	Ser	Ser	Lys	Arg	Arg	Val	Thr	Val	Met	Ile	Ala	Ile	Val	Trp
145					150					155					160
Val	Leu	Ser	Phe	Thr	Ile	Ser	Cys	Pro	Leu	Leu	Phe	Gly	Leu	Asn	Asn
				165					170					175	
Thr	Asp	Gln	Asn	Glu	Cys	Ile	Ile	Ala	Asn	Pro	Ala	Phe	Val	Val	Tyr
			180					185					190		
Ser	Ser	Ile	Val	Ser	Phe	Tyr	Val	Pro	Phe	Ile	Val	Thr	Leu	Leu	Val
		195					200					205			
Tyr	Ile	Lys	Ile	Tyr	Ile	Val	Leu	Arg	Lys	Arg	Arg	Lys	Arg	Val	Asn
	210					215					220				
Thr	Lys	Arg	Ser	Ser	Arg	Ala	Phe	Arg	Ala	Asn	Leu	Lys	Thr	Pro	Leu
225					230					235					240
Lys	Asp	Ala	Ala	Arg	Arg	Ala	Gln	Glu	Leu	Glu	Met	Glu	Met	Leu	Ser
				245					250					255	
Ser	Thr	Ser	Pro	Pro	Glu	Arg	Thr	Arg	Tyr	Ser	Pro	Ile	Pro	Pro	Ser
			260					265					270		
His	His	Gln	Leu	Thr	Leu	Pro	Asp	Pro	Ser	His	His	Gly	Leu	His	Ser
		275					280					285			
Asn	Pro	Asp	Ser	Pro	Ala	Lys	Pro	Glu	Lys	Asn	Gly	His	Ala	Lys	Ile
	290					295					300				
Val	Asn	Pro	Arg	Ile	Ala	Lys	Phe	Phe	Glu	Ile	Gln	Thr	Met	Pro	Asn
305					310					315					320
Gly	Lys	Thr	Arg	Thr	Ser	Leu	Lys	Thr	Met	Ser	Arg	Arg	Lys	Leu	Ser
				325					330					335	
Gln	Gln	Lys	Glu	Lys	Lys	Ala	Thr	Gln	Met	Leu	Ala	Ile	Val	Leu	Ala

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<210> 19
<211> 11
<212> DNA
<213> Homo sapiens

<400> 19
ccccagacc a 11

<210> 20
<211> 11
<212> DNA
<213> Homo sapiens

<400> 20
aaaggtctca a 11

<210> 21
<211> 11
<212> DNA
<213> Homo sapiens

<400> 21
tccacagggc a 11

<210> 22
<211> 11
<212> DNA
<213> Homo sapiens

<400> 22
agtggtaagt g 11

<210> 23
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<212> DNA
<213> Homo sapiens

<400> 23
ggtgcaggag g 11

<210> 24
<211> 11
<212> DNA
<213> Homo sapiens

<400> 24
ctcggtgagt c 11

<210> 25
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<212> DNA
<213> Homo sapiens

<400> 25
ccccccaggcg t

11